

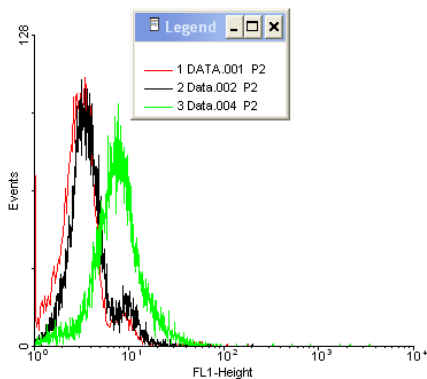
CERTIFICATE OF ANALYSIS – TECHNICAL DATA SHEET

| | | | |
|-----------------------|--|----------------------|-----------|
| Product name | CD200R3, Mouse, clone Ba103, FITC conjugated | | |
| Catalog number | HM1103F-20UG | | |
| Lot number | - | Expiry date | - |
| Volume | 200 µl | Amount | 20 µg |
| Formulation | 0.2 µm filtered in PBS+1%BSA+0.02%NaN3 | Concentration | 100 µg/ml |
| Host Species | Rat IgG2b | Conjugate | FITC |
| Endotoxin | N.A. | Purification | Protein G |
| Storage | 4°C | | |

Application notes

| | IHC-F | IHC-P | IF | FC | FS | IA | IP | W |
|-------------|-------|-------|----|-----|------|----|----|---|
| Reference # | | | | 1,2 | 1-12 | | 2 | 2 |
| Yes | | | | • | • | | • | • |
| No | | | | | | | | |
| N.D. | • | • | • | | | • | | |

N.D.= Not Determined; IHC = Immuno histochemistry; F = Frozen sections; P = Paraffin sections; IF = Immuno Fluorescence; FC = Flow Cytometry; FS = Functional Studies; IA = Immuno Assays; IP = Immuno Precipitation; W = Western blot



FC: Flow cytometric detection of MC/9 cells with monoclonal antibody to CD200R3. Red line is only cells. Black line is isotype control (5 µg/ml). Green line is 5 µg/ml mAb Ba103.

Dilutions to be used depend on detection system applied. It is recommended that users test the reagent and determine their own optimal dilutions. The typical starting working dilution is 1:50.

- WB: reduced and non-reduced MC/9 lysate; band size 38kDa under reducing conditions and 74 kDa under nonreducing conditions
- FC: Basophils and mast cells; no fixation needed
- FS: antagonist in basophil-mediated allergic reactions; a single intravenous administration of 30 µg antibody. The biological activity of the antibody is drastic reduction in the basophile number in the peripheral blood and spleen, to approximately 20% of the normal level; also useful for mast cell degranulation; readout by measuring hexosaminidase activity
- IP: mast cells were lysed with 1% NP-40 containing lysis buffer with proteinase inhibitor mixture before incubation with the antibody
- Positive control: MC/9; Negative control: CFTL-15 cells, T-cells, B-cells, macrophages, neutrophils

General Information

Description

The monoclonal antibody Ba103 recognizes mouse CD200 Receptor-like 3 (CD200R3), a protein of ~38 kDa or ~74 kDa (reduced or non-reduced condition, respectively). CD200R3 presumably exists as a disulfide-linked dimer on the cell surface, it is a single-pass type I membrane protein.

The OX-2, or CD200 receptor (CD200R), belongs to the immunoglobulin superfamily. CD200R contains two Ig-like extracellular domains, one Ig-like C2-type (immunoglobulin-like) domain and one Ig-like V-type (immunoglobulin-like) domain. and mediates inhibitory signals in myeloid cells. Mice deficient for the ligand CD200 develop enhanced experimental allergic encephalomyelitis and collagen-induced arthritis. Unlike CD200R, the CD200R-like receptors

function as activating receptors. They contain short cytoplasmic tails and a lysine residue in the transmembrane region and are likely to signal via adaptor proteins such as DAP12, DAP10, FcR γ , or CD3 ζ .

CD200R3 is expressed in uterus and bone marrow-derived mast cells (at protein level). It is expressed in uterus, spleen, bone marrow-derived dendritic, basophil and mast cells. CD200R3 is also expressed in the lung of *N. brasiliensis*-infected mice. It is weakly expressed in brain, testis, lung and thymus.

CD200R3 is expressed preferentially on cells of the myeloid lineage, including mast cells and basophils. Both cell types are involved in the host defense system against pathogens and in the development of allergic disorders. They function as independent essential initiators of allergic reactions. Basophils are the least common leukocytes in the peripheral blood accounting approximately 0.5 % of all leukocytes. *In vivo* depletion of basophils by using monoclonal antibody Ba103 proved the essential role of basophils in the development and maintenance of IgE-mediated chronic allergic inflammation.

The activating CD200 receptors, like CD200R3, play an important role in IgE-independent mast cell and basophil activation. Monoclonal antibody Ba103 activates basophils *ex vivo* and elicits systemic anaphylaxis when administered *in vivo*. Cross-linking of CD200R3 on MC/9 cells by monoclonal antibody Ba103 induces degranulation. Furthermore, monoclonal antibody Ba103 is useful for depletion of basophils.

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|------------------------------|---|
| Immunogen | Mouse primary basophils; cell-enriched bone marrow cells |
| Aliases | Cell surface glycoprotein CD200 receptor 3, CD200 receptor-like 3, CD200 cell surface glycoprotein receptor-like b, CD200RLb, cell surface glycoprotein OX-2 receptor 3 |
| Gene | Gene name: Cd200r3, Cd200rlb |
| Cross reactivity | CD200R: No; CD200R2: No; CD200R4: No; CD200R5: No |
| References | <ol style="list-style-type: none">1. Obata, K et al; Basophils are essential initiators of a novel type of chronic allergic inflammation. <i>Blood</i> 2007, <i>110</i>: 9132. Kojima, T et al; Mast cells and basophils are selectively activated <i>in vitro</i> and <i>in vivo</i> through CD200R3 in an IgE-independent manner. <i>J Immunol</i> 2007, <i>179</i>: 70933. Khodoun, M et al; Peanuts can contribute to anaphylactic shock by activating complement. <i>J Allergy Clin Immunol</i> 2009, <i>123</i>: 3424. Galli, S et al; Basophils Are Back! <i>Immunity previews</i> 2008, <i>28</i>:4955. Mukai, K et al; New Insights into the Roles for Basophils in Acute and Chronic Allergy. <i>Aller Int</i> 2009, <i>58</i>:116. Weinberger, E et al; Generation of hypoallergenic neoglycoconjugates for dendritic cell targeted vaccination: A novel tool for specific immunotherapy. <i>J Control Release</i> 2013, <i>165</i>:1017. Han, H et al; Thymic stromal lymphopoietin-mediated epicutaneous inflammation promotes acute diarrhea and anaphylaxis. <i>J Clin Invest</i> 2014, <i>124</i>:54428. Yang, Y et al; Basophil activation through ASGM1 stimulation triggers PAF release and anaphylaxis-like shock in mice. <i>Eur J Immunol</i> 2014, <i>44</i>:24689. Otsuka, A et al; Mast cells and basophils in cutaneous immune responses. <i>Eur J Allergy</i> 2015, <i>70</i>:13110. Beutier, H et al; IgG subclasses determine pathways of anaphylaxis in mice. <i>J All Clin Immunol</i> 2017, <i>139</i>:26911. Miyaki, K et al; Emerging roles of basophils in allergic inflammation. <i>Aller Int</i> 2017, <i>66</i>:38212. Nakamura, T et al; Selective depletion of basophils ameliorates immunoglobulin E-mediated anaphylaxis. <i>Biochem Bioph Reports</i> 2017, <i>9</i>:29 |
| Storage&stability | Product should be stored at 4°C. Under recommended storage conditions, product is stable for at least one year. |
| Precautions | For research use only. Not for use in or on humans or animals or for diagnostics. It is the responsibility of the user to comply with all local/state and federal rules in the use of this product. Hycult Biotech is not responsible for any patent infringements that might result from the use or derivation of this product. |

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Approved by Manager of QC
Brenda Teunissen

Date
13/07/2021

Do you have any questions or comments regarding this product? Please contact us via support@hycultbiotech.com.